

LIST OF ABBREVIATIONS

ABC	ATP-binding cassette
ACR	Albumin creatinine ratio
ADP	Adenosine dinucleotide phosphate
AGEs	Advanced glycation end products
Akt/PKB	activation of the prosurvival kinase/protein kinase-B
ALT	Alanine aminotransferase
AMP	5' adenosine monophosphate
Apo-A1	Apolipoprotein-A1
Apo-B	Apolipoprotein-B
Apo-E	Apolipoprotein-E
ARF-1	ADP-ribosylation factor-1
AST	Aspartate aminotransferase
ATP	Adenosine triphosphate
CASK	Calcium/calmodulin-dependent serine protein kinase
CD138	Cluster of differentiation 138
CE	Cholesteryl ester
CETP	Cholesteryl ester transfer protein
ChREBP	Carbohydrate-responsive element-binding protein
CK	Creatine kinase
CRP	C-Reactive protein
CS	Chondroitin sulfate
CVD	Cardiovascular disease
CYP	Cytochrome
db/db mice	A model of obesity, diabetes, and dyslipidemia mice
DKA	Diabetic ketoacidosis
DM	Diabetes mellitus
DN	Diabetic nephropathy

ECM	Extracellular matrix
EDTA	Ethylene diamine tetra acetic acid
EFYA	Glutamate-Phenylalanine-Tyrosine-Alanine
ELISA	Enzyme-linked immunosorbent assay
eNOS	Endothelial nitric oxide synthase
ER	Endoplasmic reticulum
ESRD	End-stage renal disease
FBG	Fasting blood glucose
FFA	Free fatty acid
FPP	Farnesyl pyrophosphate
GADA65	Glutamic acid decarboxylase 65
GAG	Glycosaminoglycan
GDM	Gestational diabetes mellitus
GDP	Guanosine diphosphate
GFR	Glomerular filtration rate
GPP	Geranyl pyrophosphate
GGPP	Geranylgeranyl pyrophosphate
Glut-4	Glucose transporter type-4
Gly	Glycine
GTP	Guanosine triphosphate
GxxxG	Glycine-xxx-Glycine, where x; is amino acid
Hb	Hemoglobin
HbA1c	Glycated hemoglobin
HDL-C	High density lipoprotein cholesterol
HIF-1α	Hypoxia inducible factor 1 α
HL	Hepatic lipase
HMG-CoA	Hydroxy methylglutaryl coenzyme- A
HRP	Horseradish peroxidase

HS	Heparan sulfate
HSPG	Heparan sulfate proteoglycan
IA-2A	Islet autoantibody-2A
IAA	Insulin autoantibodies
ICA	Islet cell cytoplasmic antibody
ICAM-1	Intercellular adhesion molecule-1
IDL	Intermediate density lipoprotein
IL-6	Interleukin-6
JAK/STAT	Janus activated kinase/signal transducers and activators of transcription
LADA	Latent autoimmune diabetes of adults
LCAT	Lecithin-cholesterol acyltransferase
LDH	Lactate dehydrogenase
LDL-C	Low density lipoprotein cholesterol
LPL	Lipoprotein lipase
Lp-PLA2	Lipoprotein-associated phospholipase A2
MCP-1	Monocyte chemoattractant protein-1
MDH	Malate dehydrogenase
MMP	Matrix metalloproteinase
MTP	Microsomal triglycerides transfer protein
NAD	Nicotinamide adenine dinucleotide
NADP	Nicotinamide adenine dinucleotide phosphate
NF-κB	Nuclear factor kappa-light-chain-enhancer of activated B cells
NO	Nitric oxide
OD	Optical density
PDZ	Postsynaptic density-95/zonula occludens
PI3K	Phosphatidylinositide 3-kinase
PKB	Protein kinase B
PPAR	peroxisome proliferator-activated receptors

PPG	Post prandial blood glucose
Rac	Ras-related C3 botulinum toxin substrate 1
Ras	Rat sarcoma
RCT	Reverse cholesterol transport
Rho	Ras homolog gene family
ROS	Reactive oxygen species
SD	Standard deviation
SDC-1	Syndecan-1
sd-LDL	Small density low density lipoprotein
Ser	Serine
SREBP-1c	Sterol regulatory element-binding protein-1c
Sulf-2	Sulfatase-2
T1DM	Type 1 diabetes mellitus
T2DM	Type 2 diabetes mellitus
TC	Total cholesterol
TG	Triglycerides
TGF-β	Tumor growth factor - β
TM	Transmembrane domain
TMB	Tetramethyl benzidine
TNF-α	Tumor necrosis factor- α
TRL	Triglycerides rich lipoprotein
UAER	Urinary albumin excretion rate
VCAM-1	Vascular cell adhesion molecule-1
VLDL	Very low density lipoprotein
VSMC	Vascular smooth muscle cell